

A1

21. (NEW) An isolated polypeptide selected from the group consisting of:

- a) a polypeptide comprising an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:5,
- b) a polypeptide comprising an amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:5,
- c) a biologically active fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:5, and
- d) an immunogenic fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:5.

22. (NEW) An isolated polypeptide comprising the amino acid sequence of SEQ ID NO:4.

23. (NEW) An isolated polynucleotide encoding a polypeptide of claim 21.

24. (NEW) An isolated polynucleotide encoding the polypeptide comprising the amino acid sequence of SEQ ID NO:4.

25. (NEW) A recombinant polynucleotide comprising a promoter sequence operably linked to the polynucleotide of claim 24.

26. (NEW) A cell transformed with the recombinant polynucleotide of claim 25.

27. (NEW) A transgenic organism comprising the recombinant polynucleotide of claim 25.

28. (NEW) A method of producing a polypeptide of claim 22, the method comprising:

- a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 22, and
- b) recovering the polypeptide so expressed.

29. (NEW) An isolated antibody which specifically binds to the polypeptide of claim 22.

30. (NEW) An isolated polynucleotide selected from the group consisting of:

- a) a polynucleotide comprising a polynucleotide sequence of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:10,
- b) a polynucleotide comprising a polynucleotide sequence at least 90% identical to a polynucleotide sequence of SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:10,
- c) a polynucleotide complementary to a polynucleotide of a),
- d) a polynucleotide complementary to a polynucleotide of b) and
- e) an RNA equivalent of a)-d).

31. (NEW) An isolated polynucleotide selected from the group consisting of:

- a) a polynucleotide comprising the polynucleotide sequence of SEQ ID NO:9,
- b) a polynucleotide complementary to the polynucleotide of a),
- c) an RNA equivalent of a) or b).

32. (NEW) A method of detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 31, the method comprising:

- a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide, and
- b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

33. (NEW) A method of claim 32, wherein the probe comprises at least 60 contiguous nucleotides.

34. (NEW) A method of detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 31, the method comprising:

- a) amplifying said target polynucleotide using polymerase chain reaction amplification, and
- b) detecting the presence or absence of said amplified target polynucleotide and optionally, if present, the amount thereof.

35. (NEW) A composition comprising the polypeptide of claim 22 and a pharmaceutically acceptable excipient.

36. (NEW) A method for treating a disease or condition associated with decreased expression of functional CoAEN, comprising administering to a patient in need of such treatment the composition of claim 35.